

CAS 556-67-2

Substance name Octamethylcyclotetrasiloxane

Toxicity

Octamethylcyclotetrasiloxane has been classified as a Category 1 endocrine disruptor by the European Union.¹ Octamethylcyclotetrasiloxane demonstrated estrogenic activity in rat uterotrophic assays^{2,3} and in mice.⁴

Exposure

The Danish EPA identified octamethylcyclotetrasiloxane as a listed ingredient in 1 out of 28 sunscreens, 1 of 32 lotions, and 1 out of 208 cosmetics marketed to children.⁵

References

1. European Commission DG Environment (2002). Endocrine disruptors: study on gathering information on 435 substances with insufficient data. Final report B4-3040/2001/325850/MAR/C2.
2. Quinn, AL, et al. (2007). In vitro and in vivo evaluation of the estrogenic, androgenic, and progestagenic potential of two cyclic siloxanes. *Toxicological Sciences* 96(1): 145-53.
3. McKim, JM, Wilga, PC, Breslin, WJ, Plotzke, KP, Gallavan, RH, and Meeks, RG. (2001) Potential estrogenic and androgenic activity of the cyclic siloxane octamethylcyclotetrasiloxane (D4) and the linear siloxane hexamethyldisiloxane (HDMS) in immature rats using the uterotrophic assay. *Toxicological Sciences* 63: 37-46.
4. He, B, Rhodes-Brower, S, Miller, MR, Munson, AE, Germolec, DR, Walker, VR, Korach, KS, and Meade, BJ, (2003). Octamethylcyclotetrasiloxane exhibits estrogenic activity in mice via ER alpha. *Toxicol Appl Pharmacol* 192(3): 254-61.
5. Danish Ministry of the Environment, Environmental Protection Agency. Survey of Chemical Substances in Consumer Products, Report 88, 2007. http://www.mst.dk/English/Chemicals/Consumer_Products/Surveys-on-chemicals-in-consumer-products.htm